

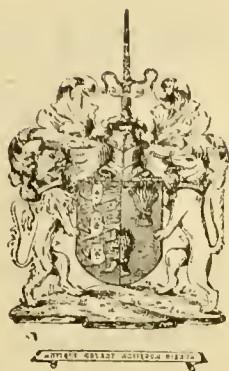


City of Chester



*With the Compliments of the
Medical Officer of Health.*

CITY AND COUNTY OF THE CITY OF CHESTER.



ANNUAL REPORT

TO

THE MAYOR, ALDERMEN, AND COUNCILLORS OF THE
CITY AND COUNTY OF THE CITY OF CHESTER.

ON THE

HEALTH OF THE CITY

IN

1921

BY

D. RENNET, M.B.E., M.D., D.P.H.,

MEDICAL OFFICER OF HEALTH.

CHESTER :

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1922.

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THE MAYOR (Mr. J. Sheriff Roberts) is an *ex-officio* Member of all Committees of the Council.

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Gentlemen,

In presenting my report on the health of the City of Chester for 1921 it is necessary to draw attention to the altered form which the report assumes. By directions of the Ministry of Health the reports of Medical Officers of Health will, as a rule, be issued as short reports which omit details as to conditions which do not vary from year to year and curtails information given in other directions. It is intended that every fifth year the Annual Report will assume a full and detailed character. The report for 1920 is to be regarded as a full report, and the present report the first of a series of survey reports. All the information necessary to judge of the health of the City will be found in the present report, but in most instances devoid of comment or explanation.

There is no doubt in my mind that the most adverse circumstance affecting the health of the City at present is the very serious shortage of houses leading to deplorable overcrowding and a condition of environment which renders healthy living extremely difficult of attainment.

I am, Gentlemen,

Your obedient Servant,

D. RENNET,

Medical Officer of Health.



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City and County of the City of Chester.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH.

1. GENERAL STATISTICS.

Area (acres)	2,862
Population (1921)	41,407
Number of inhabited houses	8,447
Number of families or separate occupiers (1921)	
Rateable value	£244,586
Sum represented by a Penny Rate	£936

The population at the middle of the year is given by the Registrar General as 41,030, but Chester residents temporarily in institutions outside our boundaries have to be added; those number 377, which brings the population, for the estimation of birth and death rates, to 41,407.

2. EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

Births—Legitimate, 859; Illegitimate, 36. Birth Rate, 21·63.

Deaths, 585. Death Rate (crude), 14·12.

Number of Women dying in, or in consequence of, Childbirth—From Sepsis, 1; from Other Causes, 2.

Deaths of Infants under One Year of age per 1,000 Births—Legitimate, 82·6; Illegitimate, 222·2. Total, 88·26.

Deaths from Measles (all ages), 0·00.

Deaths from Whooping Cough (all ages), 0·31.

Deaths from Diarrhoea (under 2 years of age), 0·38.

A table setting out the deaths from various causes in different age groups will be found at the end of the report.

The death-rate for the year is considerably higher than that for 1920, when it was 12·24, but it is probable that the population was over-estimated in 1920, and if the population is adjusted in view of the census figures the difference is somewhat less marked. Our death-rate for the year is, however, higher than that for England and Wales as a whole, and noticeably higher than the smaller towns with populations between 20,000 and 50,000.

An examination of the causes of death shows a small increase in a large number of causes—too small to be of any significance. Two points, however, are worth comment. Every year a number of children die of some infectious disease, mostly either measles or whooping-cough. Those deaths are not very numerous, but this year they are 13·7 per cent. of the deaths under 2 years of age. We make provision for the home nursing of both measles and whooping-cough, but many of the complicated cases escape our notice. The most frequent fault in unenlightened home nursing of those diseases is the exaggerated importance put on warmth. To attain this all that is possible is done to exclude air, and so the worst possible conditions are produced for the successful nursing of complicated whooping-cough or measles.

The other feature in the causes of death is the great increase in deaths from tuberculous diseases. This increase is almost all due to pulmonary tuberculosis, 49 deaths taking place from this cause compared with 28 in the previous year. The increase is noticeable both in males and females, but much more so amongst males, of whom 31 died compared with 16 in 1920. This is apparently an effect of the war. A large proportion of the men had war service, and there is nothing in their civil employment favourable to tuberculosis.

The infant death-rate is 88·26, which is higher than it has been for the last two years, and it is also slightly higher than the rate for corresponding towns, which is 84. Notwithstanding the slight increase, it is a satisfactory rate. With our small number of births one or two deaths makes a noticeable difference in the rate. The yearly loss of infants from infectious disease has already been mentioned. Diarrhoea deaths are somewhat increased over last year, but do not constitute the large proportion of deaths they did some years ago. Deaths from respiratory diseases are also somewhat increased, and are responsible for 23 per cent. of the deaths in this age group. Developmental conditions account for 38 per cent. of the deaths; about the average for this cause.

At the age of one and under two years, infectious diseases account for 30 per cent. of the deaths, and respiratory diseases for 35 per cent.

There is nothing of moment in the deaths in older age groups until at 20 years and under 35, when pulmonary tuberculosis causes 48 per cent. of the deaths. This is also the commonest cause of death in the next age group—35 and under 45; while over 45 years some form of malignant growth is the most common cause.

3. NOTIFIABLE DISEASES DURING THE YEAR.

The following table sets out the notifiable diseases occurring at various ages, during the year, together with the deaths (printed in italics):—

3. NOTIFIABLE DISEASES DURING THE YEAR.

DISEASE.	Under 1 year.	1 and under 2	2 and under 3	3 and under 4	4 and under 5	5 and under 10	10 and under 15	15 and under 20	20 and under 35	35 and under 45	45 and under 65	65 and over	Total Cases.	Cases admitted to Hospital
Diphtheria ...	0 (1)	4 (1)	4	1	6 (1)	60	24	8	11	0	2 (1)	0	120 (4)	117
Scarlet Fever ...	0	1	7	5	6	52	32 (1)	7	4	2	0	0	116 (1)	107
Enteric Fever ...	0	0	0	0	0	0	0	2	0	0	0	0	2	1
Pneumonia ...	9 (7)	9 (4)	3 (2)	1 (1)	0	7 (1)	4 (1)	0	6 (5)	7 (3)	11 (10)	3 (2)	60 (36)	32
Erysipelas ...	0	0	0	0	0	0	0	1	2	0	2	0 (1)	5 (1)	0
Puerperal Fever ...	0	0	0	0	0	0	0	0	0	2 (1)	0	0	2 (1)	1
Poliomyelitis...	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Ophthalmia Neonatorum ...	4	0	0	0	0	0	0	0	0	0	0	0	4	0
Pulmonary Tuberculosis M.	0	0	0	0 (1)	0	0	1 (1)	3 (2)	13 (16)	3 (5)		0	27 (31)	30
do. do. F.	0	0	0	0	1	3	1	7 (2)	8 (8)	2 (4)	5 (3)	0 (1)	27 (18)	15
Other Forms														
Tuberculosis M.	1 (1)	0	2 (3)	1	0 (1)	3	3	1 (1)	0	1 (1)	0	0	12 (7)	0
do. do. F.	1 (1)	0	0	0	0	7	3 (1)	1	1 (2)	1 (1)	2	0	16 (5)	1
Encephalitis Lethargica ...	0	0	0	0	0	0	0	0	0	0		0	1 (1)	0
Malaria ...	0	0	0	0	0	0	0	0	1	0	1	0	2	1

Ophthalmia Neonatorum.	CASES.			Vision Unimpaired.	Vision Impaired.	Total Blindness.	DEATHS.
	Notified.	Treated.					
		At Home.	By Hospital.				
4	4	4	2*	4	—	—	One from Congenital Syphilis.

* Treated as out-patients.

Diphtheria was much more prevalent during the year than normally, and in the last three months amounted to a small epidemic. There were 120 cases notified compared with 73 in 1920. The increased prevalence was slightly noticeable at the beginning of the year, but during the summer months the incidence fell to normal, to again increase in October. The disease was of average severity, and there were four deaths. Two of those were in the first two years of life, one between 4 and 5 years, and the fourth a man of about 60. Although this death was certified as due to diphtheria, both clinically and bacteriologically, it was one of septic throat. The case had been treated in hospital, and died some weeks after discharge.

Of the 120 cases, 12.5 per cent. were under school age and 70 per cent. were between 5 and 15 years. No part of the City was more affected than another, and no individual school was ever seriously affected. All the pupils in certain departments of certain schools had their throats, or throats and noses, bacteriologically examined, and the same was done with all the home contacts. In this way a number of cases were detected, particularly of nasal diphtheria. Those children giving a positive brushing who did not present some sign of illness, or who had not a sister or brother affected were not treated as cases of the disease, but were excluded from school and kept under observation.

Although in many cases the source of infection was found to be in all probability a formerly notified case, yet in many instances the source was not found. By liberal bacteriological examinations of throats and noses, and the disinfection of school premises and infected homes, the prevalence of the disease had returned to normal by the end of the year.

Scarlet Fever had the same prevalence as last year, and is still in the majority of cases very mild. There were 116 cases notified, the larger proportion, as in diphtheria, being in children between

5 and 15 years of age, those constituting 72 per cent. of the cases. The cases were fairly uniformly distributed throughout the year, no part of the City was more affected than another.

The very mild form of the disease continues to cause difficulty in diagnosis. The sore throat and rash are frequently very evanescent, and its distributon less general than usual. After the disappearance of the rash the papillated tongue, palpable glands, and red throat may all be very doubtful, and one is left to wait for desquamation, which also may be extremely slight and atypical. While looking for the probable source of infection an infant's department in one of the schools was examined. It was found that a tongue slightly coated with papillated tip and edges and palpable submaxillary glands was a frequent combination in an apparently healthy child. In such circumstances one has either to trust the history of sore throat and rash, which may have been entirely overlooked by the parent, or wait for desquamation. The mildness of the case is apparently accompanied by a low tendency to complications.

There was one death, a case of marked severity, who died of endocarditis.

Enteric Fever caused two cases during the year. One was contracted out of Chester, and the other occurred in hospital, contracted while nursing a case from an outside district. There were no deaths.

Pneumonia.—The notification of pneumonia is not carried out in a satisfactory manner. There were 60 cases notified, but many of them only after the attention of the physician certifying a death had been called to the fact of non-notification. The notifications received were mostly in reference to the first two years of life, and from 35 years to 65 years; but during school age, 11 cases were notified. The deaths, of which there were 36 (rather less than last year), were most numerous at the beginning of life, and at the age period, 45-65 years. In 40 cases, in which fairly full information as to home conditions and surroundings was obtained, 19 were living in overcrowded houses, the average number of persons per bedroom being 3·3: 127 persons were living in 39 bedrooms. No single occupation was found to figure largely in the list, nor was attendance at a place of public entertainment or exposure to cold found to be a common factor.

Erysipelas was notified on 5 occasions, all cases being in persons over 15 years of age. One death occurred—a patient over 65 years of age.

Puerperal Fever.—There were only 2 cases of puerperal fever during the year compared with 7 in the previous year. One of the cases was removed to hospital, but died soon after her arrival.

Poliomyelitis was notified once. The patient, a child of between 1 and 2 years, was removed to hospital and made a satisfactory recovery.

Enquiry failed to elicit the source of infection, and no other similar illness could be found in the neighbourhood.

Ophthalmia Neonatorum was notified on four occasions. All cases were verified microscopically. Two of the cases were treated as outpatients at the Infirmary. All four recovered without loss of vision.

Pulmonary Tuberculosis shews a slight increase, there being 54 notifications compared with 46 in the previous year. The incidence was borne equally between the sexes—27 cases each. In the case of females, the notifications are fairly equally spread from 4 years to the age period, 45-65, with a slight increase at the ages 15 to 35, while in the males the cases occur from the 10-15 year age group to the 45-65 year group, with a distinct rise in the period 20-35 years.

* The deaths, of which there were 49 compared with 28 last year, occur in the majority of cases in the age group 20-35, and next, but much less frequently in the two following age groups, 35-45 and 45-65.

The increase in the deaths seems to be an aftermath of the war: the increase is mostly amongst males—31 compared with 16 last year, and a large proportion of them served in the army. Examining their civil occupations nothing of moment emerges. Railway employees formed 19 per cent. of the deaths, but their employment was in widely different capacities, and the railway companies are the largest employers in the City.

There were 28 cases of non-pulmonary tuberculosis notified compared with 14 in the previous year. The increase in the notifications is almost entirely in the 5 to 10 age group, and are cases of tuberculous glands. The notifications included 4 of meningitis, 5 abdominal tuberculosis, 3 bone disease, 2 disease of joints, and 1 case of tubercular disease of skin.

The deaths due to non-pulmonary tuberculosis numbered 12 compared with 8 in the previous year. Six of those deaths were due to meningitis, 3 to abdominal tuberculosis, and 2 to bone disease.

The notification of pulmonary tuberculosis is now being satisfactorily carried out, and no case of death before notification was met with. Notification of other forms of tuberculosis is not so satisfactory, and cases are frequently met with who are undergoing treatment but have not been notified.

One case of *encephalitis lethargica* was notified. The patient, over 45 years of age, seemed to have contracted the disease while attending a conference out of the City. The case, which was well marked, ended fatally.

Two cases of malaria were notified, both having contracted the disease abroad.

4. CAUSES OF SICKNESS.

From personal observation and enquiry from medical men practising in the district, it can be stated that there was no predominant cause of invalidity or sickness operating in the district during the year. The prevalence of both scarlet fever and diphtheria has already been remarked upon, but although more prevalent than usual they did not assume the proportions of an epidemic. Influenza was almost absent until the last days of the year, and reached considerable prevalence during January of the present year. Measles was practically absent, but there was a considerable amount of whooping-cough.

5. SUMMARY OF NURSING ARRANGEMENTS, HOSPITALS, AND OTHER INSTITUTIONS AVAILABLE FOR THE DISTRICT.

Professional Nursing in the home:—

- (a) General.—The District Nursing Association undertakes home nursing on the call of a medical attendant or a patient;
- (b) By arrangement with the local Authority, the Association also helps in the home treatment of school children suffering from minor ailments, and during times of epidemic also the nursing of measles and whooping-cough. For this work a grant of £50 a year is given.

Midwives.—The local Authority does not subsidise or employ any midwife. There are 22 midwives in the City, 8 of whom work with the Chester Benevolent Institution, a Society for attending the wives of poor people during confinement. This Society does a large proportion of the work in the City. They have also two beds for maternity cases in their home to which the local Authority may send cases on payment of a fee of £1 1s.

The following Clinics or Treatment Centres are provided by the local Authority:—

Maternity and Child Welfare: Crook House, Crook Street; 4 rooms. (Local Authority provide the premises and Medical Officer).

School Clinic (Inspection and Treatment): Crook House, Crook Street; Doctor's room, Dentist's room and waiting room.

Tuberculosis Clinic: St. John Street.

Venereal Disease Clinic: Chester Royal Infirmary; Outpatient Department, and 4 male and 4 female beds, occupied by Chester, Flintshire and Denbighshire.

The Maternity and Child Welfare Clinic meets twice a week, when babies are weighed, health talks given to mothers, and medical consultations given to expectant or nursing mothers of children up to 5 years, and examinations made. During 1921 the following work was done:—

Number of babies attending	277
Number of visits of babies	1478
Number of children attending	279
Number of visits of children	1763
Number of expectant mothers	88
Number of visits of expectant mothers	382
Number of expectant or nursing mothers seen by doctor	56
Consultations with expectant or nursing mothers	79
Number of infants examined by doctor	184
Number of infant examinations	304
Number of children 1-5 years seen by doctor ...	102
Number of examinations of children	153

The Tuberculosis Clinic is held on Mondays and Thursdays, 11 to 12; and on Thursdays, 6 to 8.

During the year the following work was done:—

Number of patients attending	187
Number of contacts examined	33
Number of suspects examined	90
Number of attendances made	782

(Of the above, 43 are discharged soldiers).

Number of visits, by Nurse, made to homes	2378
(including 789 to discharged soldiers).	

Public Health (Tuberculosis) Regulations, 1912.

Summary of Notifications during 1920.

Number of Notifications on Form A.															Total Notifications (i.e. includ- ing cases previously notified by other Doctors).
Primary Notifications.															
Age Periods.		0 to	1 to	5 to	10 to	15 to	20 to	25 to	35 to	45 to	55 to	65 and upwards	Totals.		
	I		5	10	15	20	25	35	45	55	65				
Pulmonary Males	...	0	0	0	1	3	4	9	3	6	1	0	27	29	
Pulmonary Females	...	0	1	2	0	7	3	5	2	5	0	0	25	29	
Non-Pulmonary Males	...	1	3	2	2	1	0	0	1	0	0	0	10	10	
Non-Pulmonary Females	...	1	0	5	3	1	0	1	1	1	1	0	14	14	
Totals	...	2	4	9	6	12	7	15	7	12	2	0	76	82	

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Number of Notifications on Form B.														
Age Periods.		Number of Notifications on Form B.										No. of Notifications on Form C.		
		Primary Notifications.						Total Notifications (i.e. includ- ing cases previously notified by other Doctors).				Poor Law Institu- tions.	Sana- toria.	Pavilion, Sealand.
		Under 5	5 to 10	10 to 15	Totals.									
Pulmonary Males	...	0	0	0	0	0	0	3	2	2	10	17		
Pulmonary Females	...	0	1	1	2	2	2	5	2	2	2	11		
Non-Pulmonary Males	...	0	1	1	1	1	1	2	2	0	0	0		
Non-Pulmonary Females	...	0	2	0	2	2	2	2	2	0	0	0		
Totals	...	0	4	2	6	6	6	12	6	5	12	28		

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Number of Notifications on Form B.					No. of Notifications on Form C.		
Age Periods.	Primary Notifications.			Total Notifications (i.e. including cases previously notified by other Doctors).	Poor Law Institutions.	Sanatoria.	Pavilion, Sealand.
	Under 5	5 to 10	10 to 15				
	Totals.						
Pulmonary Males ...	0	0	0	0	3	10	17
Pulmonary Females ...	0	1	1	2	2	2	11
Non-Pulmonary Males ...	0	1	1	2	0	0	0
Non-Pulmonary Females ...	0	2	0	2	0	0	0
Totals ...	0	4	2	6	5	12	28

The Venereal Disease Clinic is held at the Royal Infirmary on the following days and hours:—Mondays and Wednesdays, 5 to 7 p.m.; Thursdays, 1 to 3 p.m.; and Saturdays, 12 to 2 p.m. The Clinic is also open all day for the purpose of irrigations, when a trained assistant is in attendance. The districts served by the Clinic are Chester City, and the Counties of Denbigh and Flint, while a considerable number of patients attend from the neighbouring portions of Cheshire, although Cheshire has not joined the scheme officially.

During the year, 63 new cases from Chester attended for treatment, their ailments being as follows:—

Syphilis	21
Soft chancre	6
Gonorrhœa	26
Other conditions	10
Out-patient attendances	697
In-patient days	367

During the year, 276 doses of salvarsan substitutes were given.

Hospitals provided or subsidised by the Local Authority:—

The Local Authority provide, at Sealand, an open-air Pavilion with 26 beds for the treatment of tuberculosis. There are 10 female and 16 male beds, of which 3 for each sex are occupied by County patients, by an agreement with the County Authorities.

During the year 40 patients were admitted, 28 being City patients and 12 from the County. The early cases of pulmonary tuberculosis are sent to Kingswood Sanatorium under an arrangement with the Liverpool Sanatorium and Delamere Training Colony, Frodsham. No definite number of beds is specified, and as a rule patients are admitted without undue delay.

For the treatment of non-pulmonary tuberculosis some of our patients are sent to the Children's Hospital, Heswall, and some to the Shropshire Orthopædic Hospital, Oswestry.

After-Care of Crippled Children.—It is hoped during the current year that the British Red Cross Association will inaugurate an After-Care Clinic for Crippled Children, and for this purpose the Public Health Committee have agreed to the use of the Tuberculosis Dispensary. The scheme will be entirely voluntary, and it is hoped to be able to continue on that basis.

There is no Maternity Hospital in Chester, nor any specifically 'Children's Hospital,' children being treated at present in the children's ward of the Royal Infirmary.

Fever Hospital.—The Isolation Hospital, Sealand, is provided by the local Authority. There are three large blocks divided into 6 wards, a smaller block of 4 wards, and a small discharge block. The usual administrative block, laundry, disinfection station, mortuary and ambulance shed are also provided.

The Tuberculosis Open-Air Pavilion is in an adjoining field, and is worked from the main administrative block.

During 1921, 370 patients were treated exclusive of the 40 tuberculous patients previously mentioned. Of those, 246 belonged to the City and 124 to outside districts.

The Diseases treated were:—

	City Cases.		Outside Districts.		Total.
Scarlet Fever	103	...	75	...	178
Diphtheria	129	...	43	...	172
Enteric Fever	1	...	4	...	5
Anterior Poliomyelitis	1	...	0	...	1
Scabies	5	...	0	...	5
Verminous conditions..	7	...	0	...	7
	246	...	122	...	368
Tuberculosis Meningitis	1	...	1	...	2
	247	...	123	...	370

There were 9 deaths: Scarlet Fever, 2; Diphtheria, 5; Tuberculous Meningitis, 2.

Ambulance facilities:—

One motor ambulance is provided by the local Authority for accident work and for the removal of non-infectious cases to nursing homes or the Royal Infirmary. This is kept at the Fire Station, conveniently situated.

There are two motor ambulances kept at the Isolation Hospital to deal with the removal of infectious cases from the City and neighbouring districts to the Isolation Hospital.

6. LABORATORY WORK.

The laboratory of the Local Authority is available for the examination of pathological or suspected clinical material sent by the medical practitioners in town, and is largely taken advantage of. During the year, 1,528 examinations were made, details of which are given below. The work is so arranged that a report on a suspected case of diphtheria is telephoned before 10 o'clock in the morning to the medical man sending the swab, and this is followed by a written report. Examinations for tubercle bacillus are generally done and reported on the same day as receipt, or the day following,

and for gonococcus on the same day. The swabs of all contacts of diphtheria (and all home contacts are examined as a routine) are also examined in the laboratory, and examinations for diagnosis and for information during treatment of patients attending the tuberculosis dispensary, or inmates of the tuberculosis pavilion, Sealand.

PATHOLOGICAL REPORT FOR 1921.

Material.	Examined for					Positive.	Negative.
Swab	B. Diptheria	...	...	...	...	112	1142
Swab	Gonococci	...	...	...	...	32	18
Sputum	Tubercle Bacillus	...	...	...	...	56	102
Blood	Widal	...	...	...	...	4	8
Faeces	B. Typhosus	...	...	...	...	—	10
Hair	Ringworm	...	...	...	...	3	3
Urine	Tubercle Bacillus	...	...	...	...	—	8
	Albumin	...	...	...	...	1	5
	B. Typhosus	...	...	...	...	—	3
	Sugar	...	...	...	...	1	—
	Casts	...	...	...	...	1	1
	B. Coli	...	...	...	...	—	1
Blood	Spirochaetes	...	...	...	...	1	1
Faeces	Ova	...	...	...	...	—	1
Ascitic Fluid	Bile Pigment and Blood Cells	...	...	...	...	1	—
Swab	Vaccine	...	...	...	...	2	—
Swab	Actinomyces	...	...	...	...	—	2
Vallopien Cyst Fluid	Organisms	...	...	...	...	—	1
Cerebrospinal Fluid	Meningococcus	...	...	...	...	—	2
Swab	Gonococcus (Ophthalmia Neonatorum)	...	...	...	...	1	—
Eye Discharge	Casual Organism	...	...	...	...	Staphylococci	—
Nasal Discharge ... ..	"	...	...	...	...	"	—
Milk	B. Coli	...	...	...	...	2	—
Blood	Leucocyte Count	...	...	...	...	1	—
Total Specimens Examined							1528.

Diphtheria antitoxin is issued free to practitioners for use in necessitous cases, but is not often called for. It has been so issued once only this year. As a rule, the need does not arise, as there is very little delay in issuing a report in a doubtful case, or where the clinical picture is sufficient, in removing the patient to hospital.

Water Supply and Examinations.—A routine examination of the water supply, which is derived from the River Dee, is made bacteriologically once a fortnight, and chemically once a month. In the bacteriological examination the effluent from each filter in use (generally 6), from the clear water reservoir, from a consumer's tap, and also a sample of raw river water taken at the intake, is dealt with. The sample for chemical examination is taken from a consumer's tap.

The chemical examination shews considerable variation owing to the state of the river. On the whole, the chemical examinations shew more signs of vegetable contamination than anything of danger. Water is not abstracted from the river at times of great flood, so that much of the worst pollution is avoided.

The chemical findings are as follows:—

CHEMICAL EXAMINATION OF CITY WATER SUPPLY, 1921.

Date. 1921.	SOURCE.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Oxygen absorbed in 1½ hour.	Oxygen absorbed in 4 hours.
Jan. 12th	Parry's Court, Princess Street ...	1·6	·0014	·0195	·194	·275
Feb. 10th	Shepherd's Court Newgate Street ...	1·6	·0018	·0125	·100	·180
Mar. 16th	Parker's Court, Princess Street ...	1·6	·0016	·0154	·192	·252
April 13th	Jonas' Court, Princess Street ...	2·6	·0004	·009	·080	·200
May 11th	Valentine's Court, Upper Northgate Street	2·8	·0011	·0101	·031	·062
June 8th	Athol Place, Crook Street	2·6	·0024	·0148	·023	·164
July 6th	Laboratory Tap	4·2	·0008	·022	·037	·101
Aug. 10th	Banner's Court, Princess Street ...	1·2	·0010	·0123	·140	·260
Sept. 14th	Parry's Court, Princess Street ...	3·0	·0006	·0125	·0021	·0754
Oct. 12th	Edwards' Court, Princess Street ...	1·4	·0019	·0086	·12	·167
Nov. 16th	Athol Place, Crook Street	1·6	·0012	·0106	·077	·249
Dec. 14th	Laboratory Tap	2·0	·00146	·0125	·161	·241

The bacteriological finding in the fortnightly examinations are given below. Considerable difficulty is still experienced in getting reliable gelatine for the preparation of media, which accounts largely for the frequent liquefaction of this material.

The water is considered satisfactory if the number of germs growing from 1 c.c. of water, on gelatine at 20° c., and on Agar at 37° c., is not excessive, and if 'Flaginac' Bacillus Coli is not found in 10 c.c. of the water.

The number of germs growing from 1 c.c. of water was on no occasion excessive. Typical (flaginac) bacillus coli was found in 10 c.c. of the water from one or other of the filters on 5 occasions, but it was not found in that quantity of water from the mixed filtrates on any occasion. It was found in 10 c.c. of water from the consumer's tap on 8 occasions. In view of the other findings this can only be explained by the soiling of the tap from splashing from an indifferently kept sink, or other surrounding, and does not reflect on the quality of the water.

Towards the end of the year the Water Company put into use a series of roughing filters which will remove a large proportion of the suspended solids in the water, and materially improve the colour. The effect on the bacterial content of the water was not evident at the end of the year, but owing to the longer time necessary to constitute a sand filter under this system such evidence could hardly be expected.

Bacteriological Examination of City Water Supply, 1921.

Date.	Unfiltered River Water.			Filter 1.			Filter 3.			Filter 4.			Filter 5.			Filter 6.			Filter 7.			Filtered Water.			Consumers' Tap.		
	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli	Gel.	Agar.	Coli
1921	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Jan. 5	3400	1680	5X	7	G.O.	—	13	7	—	22	7	—	Liq.	20	—	17	G.O.	—	off cleaning	—	—	Liq.	G.O.	—	Liq.	G.O.	X
Jan. 19	400	680	5X	11	16	—	Liq.	G.O.	—	5	1	—	off cleaning	—	—	Liq.	G.O.	—	Liq.	G.O.	X	20	9	—	22	7	—
Feb. 2	77600	1040	1X	7	G.O.	—	off cleaning	—	—	9	G.O.	—	17	8	X	76	8	—	68	5	X	72	G.O.	—	100	40	X
Feb. 16	1500	280	5X	8	4	—	Liq.	G.O.	—	6	5	—	Liq.	9	X	off cleaning	—	—	Liq.	G.O.	—	9	9	—	Liq.	8	X
Mar. 9	2100	240	5X	11	G.O.	—	off cleaning	—	—	Liq.	7	—	off cleaning	—	—	4	10	—	Liq.	4	—	24	G.O.	—	10	5	X
Mar. 23	Liq.	380	5X	Liq.	36	—	Liq.	7	—	Liq.	4	—	Liq.	5	—	Liq.	6	—	Liq.	G.O.	—	Liq.	G.O.	—	Liq.	7	X
April 6	Liq.	180	5X	Liq.	7	—	Liq.	4	—	Liq.	11	—	off cleaning	—	—	Liq.	13	—	Liq.	4	—	Liq.	8	—	Liq.	7	X
April 20	2600	340	5X	4	5	—	off cleaning	—	—	4	10	—	5	G.O.	—	8	8	—	8	8	—	9	5	—	10	17	—
May 4	1100	80	5	4	3	—	8	G.O.	—	11	5	—	7	6	—	5	5	—	7	7	—	5	6	—	8	4	—
May 19	Liq.	50	5	Liq.	2	—	Liq.	4	—	Liq.	4	—	Liq.	4	—	Liq.	3	—	Liq.	G.O.	—	Liq.	4	—	Liq.	3	—
June 2	Liq.	90	1	Liq.	G.O.	—	Liq.	G.O.	—	Liq.	G.O.	—	Liq.	6	—	Liq.	11	—	Liq.	0	—	Liq.	5	—	Liq.	5	—
June 15	Liq.	70	5X	5	G.O.	—	2	2	—	1	2	—	4	4	—	5	5	—	Liq.	3	—	Liq.	2	—	Liq.	2	—
June 29	400	20	1	6	4	—	6	2	—	4	5	—	7	2	—	2	6	—	6	5	—	8	3	—	11	2	X
July 13	*	65	5X	*	2	—	*	4	—	*	*	—	*	6	—	*	9	—	*	7	—	*	5	—	*	3	X
Aug. 10	800	60	1	2	4	—	off cleaning	—	—	10	4	—	29	12	—	5	5	—	7	4	—	6	8	—	16	12	X
Aug. 18	21600	1580	1X	11	4	—	7	6	—	6	10	—	9	G.O.	—	9	4	—	4	G.O.	—	6	G.O.	—	12	5	—
Sept. 7	Liq.	40	5X	off cleaning	—	—	Liq.	3	—	Liq.	3	—	Liq.	4	—	Liq.	4	—	Liq.	2	—	Liq.	2	—	Liq.	7	—
Sept. 21	500	50	5X	3	G.O.	—	1	6	—	off re-sanding	—	—	14	6	—	4	3	—	7	2	—	2	3	—	2	3	—
Oct. 5	8000	G.O.	1X	5	5	—	6	11	—	off re-sanding	—	—	12	G.O.	X	5	9	—	3	12	—	2	3	—	3	5	—
Oct. 19	200	570	1X	8	4	—	4	11	—	5	4	—	1	5	—	2	7	—	0	10	—	1	2	—	3	5	—
Nov. 9	300	155	5X	3	10	—	5	7	X	6	11	—	off cleaning	—	—	11	6	—	29	5	—	7	15	—	54	3	—
Nov. 23	1000	455	5X	1	1	—	2	2	—	4	3	—	off cleaning	—	—	3	2	—	3	3	—	3	32	—	12	1	X
Dec. 7	350	240	1X	off cleaning	—	—	3	5	—	6	3	—	11	8	—	2	1	—	3	3	—	8	5	—	5	G.O.	—
Dec. 21	800	190	1X	1	6	—	7	9	—	2	10	—	off cleaning	—	—	7	5	—	3	6	—	7	10	—	13	9	—

G.O.—Grown over.

Liq.—Liquified.

X—Positive.

—Negative.

*—Incubator out of order.

LIST OF ADOPTIVE ACTS, BYE-LAWS, AND LOCAL REGULATIONS IN FORCE IN THE DISTRICT.

Public Health Acts Amendment Act, 1890.

Infectious Diseases (Prevention) Act, 1890.

Notification of Births Act, 1907.

Public Health (Prevention and Treatment of Disease) Act, 1913.

Public Health (Tuberculosis) Act, 1921.

Rats and Mice (Destruction) Act, 1919.

Baths and Wash Houses Act, 1907.

Private Street Works Act, 1892.

Public Improvements Act, 1860.

Chester Improvement Acts, 1845, 1884.

Bye-Laws as to Obstructions, Encroachments, and Nuisances, 1879.

Bye-Laws under the Dairies, Cowsheds and Milkshops Order (1885), 1904.

Bye-Laws for the Regulation of Slaughter-houses, 1909.

Bye-Laws for the Regulation of Common Lodging Houses, 1909.

Houses and Parts of Houses Let in Lodgings Regulations, 1867.

Bye-Laws in respect of Nuisances, 1887.

7. SANITARY ADMINISTRATION.

Sanitary Inspection of the District.

Canal Boats Acts, 1877 and 1884.

The total number of canal boats registered under the above Acts, in 1921, was 464. There were no new registrations.

The inspection of 125 boats shewed only one boat contravening the regulations. The service of a notice resulted in the remedying of the defects. The cabin accommodation of the boats is sufficient for 412 prsons, but the actual population was 350. This included 126 adult males, 95 adult females, 76 children of school age, and 53 under 5 years.

Particulars of the work done will be found tabulated at the end of the report.

Factory and Workshops Act, 1909.

The number of factories and workshops on the register at the end of the year was 197. Their nature was as follows:—

Dress	66
Boot and Shoe	4
Bakehouses	41
Cabinet making	5
Miscellaneous	81
<hr/>	
Total	197
<hr/>	
Visits made	282
Defects found	31
Defects remedied	31

There is only one underground bakehouse in the City, and it is not in regular use.

Sanitary Condition of Schools.

The sanitary condition of schools in the City is satisfactory. The drainage system of three schools had to be dealt with. Two of those buildings have been rendered satisfactory. The third has been closed as a school.

Home Workers.

The homes of outworkers were regularly inspected, and were found to be in all cases satisfactory. Nineteen lists were received by the department, and gave particulars of 31 persons so employed.

Food Inspection.

There were fewer animals slaughtered in the City than usual, as the condition of the markets favoured the buying of dead meat from outside the City.

The inspection of meat and other foods, and of slaughter-houses and places where food is prepared, has been carried out as usual. The conditions in those places remains the same, many of them congested so as to render cleanliness and convenient working difficult.

The following visits were made:—

Slaughter-houses	326
Butchers' Shops	275
Fishmongers' Shops	252
Other Food Shops	247
<hr/>	
	1100
<hr/>	

The following articles were condemned as being unfit for the food of man:—

Beef—Carcases	11
Portions of carcasses	3
Portions of imported carcasses	5
Tins of beef	9
Pickled beef (pieces)	2
Mutton—Carcases	2
Carcases, imported	4
Tins of mutton	2
Pork—Carcases	3
Fish—(Various)	9
Kippers (boxes)	7
Cod (boxes)	2
Sprats (barrel)	1
Salmon (tins)	1
Ducks, imported	14
Venison	1
Pheasants	26
Sweets (parcels)	2
Dates (boxes)	1
Tins of fruit	322
Tomatoes (boxes)	58

One prosecution under the Food and Drugs Acts was taken in respect of decomposed dates. A fine of 20s. and 5s. costs was imposed.

The estimated weight of the food condemned was 5 tons, 1 cwt., 1 qt., 17 lbs.

The causes of condemnation were as follows:—

Tuberculosis—

Beef (carcasses)	10
(portions of carcasses)	3
Pork (carcasses)	3

Emaciation—

Beef (carcase)	1
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Dropsy—

Mutton (carcasses)	2
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The remainder of the food condemned was decomposed.

Much of the preserved food on the market during the year was of poor quality and badly preserved.

SALE OF FOOD AND DRUGS ACTS, 1875-1907.

The following table sets out the samples of food taken for analysis under the above acts:—

Name of Article.	No. not Genuine.	No. Genuine.	No. taken Formally.	No. taken Informally	Totals.
Milk	5	34	33	6	39
Butter	16	16	...	16
Lard	9	9	...	9
Coffee	4	4	...	4
Cream	4	4	...	4
Margarine	4	4	...	4
Sweets	4	4	...	4
Pepper	3	3	...	3
Baking Powder	2	2	...	2
Cheese	2	2	...	2
Egg Powder	2	...	2	...	2
Flour	2	2	...	2
Ground Rice	2	2	...	2
Honey	2	2	...	2
Black Currant Jam	1	1	...	1
Custard Powder	1	1	...	1
Malt Vinegar	1	1	...	1
Raspberry Jam	1	1	...	1
Rice	1	...	1	...	1
	8	92	94	6	100

As regards the egg powders: In one instance no action was taken as the packet was marked 'egg substitute.' In the other case the powder contained a large excess of calcium sulphate (plaster of Paris) present as an impurity. The attention of the retailer and manufacturer was called to the matter, and the substance was withdrawn from sale. It is well that the public should know that egg powders contain no egg, and are as a rule a coloured baking powder with some flour.

Proceedings were taken in each of the cases of unsatisfactory milk, and the following table shews the fault and the consequences. The consequences are not yet drastic enough.

The average composition of 33 samples of milk submitted to analysis was Fat, 3·67 per cent.; Non-fatty Solids, 8·83 per cent., and is satisfactory

No. of Sample.	Name of Article.	Result of Analysis.	Result of Legal Proceedings or Action taken by Committee.
24	Milk ...	Deficient in 5·7 per cent. of fat and contained 4·7 per cent. extraneous water.	Fined £3 and 15/6 costs.
26	Milk ...	Deficient in 5·3 per cent. of fat ...	Proceedings instituted. Case dismissed. The farmer supplying this dairy was fined in respect of sample No. 28, taken in course of delivery.
28	Milk ...	Deficient in 8 per cent. of fat ...	Fined £2 and 15/6 costs. This sample corresponds with No. 26.
40	Milk ...	The sample contained 3·6 parts per 100,000 of sediment, one-half of which consisted of dung.	Fined £2 and 15/6 costs.
53	Milk ...	Deficient in 7·3 per cent. of fat ...	Proceedings instituted. Case dismissed. The Magistrates decided that the milk was sold as derived from the cattle.
89	Rice ...	Sample faced with steatite and contained 25·2 grains per lb. of rice mineral. Steatite 36 per cent.	No action was taken, as the amount of steatite present was below the prescribed limit of 5 per cent.
92	Egg Powder	Sample consisted of maize flour and arrowroot coloured with tumeric, and containing a mixture of acid potassium, tartarate and sodium bicarbonate.	No action was taken. Notice was given by label that the article was a substitute for eggs.
100	Egg Powder	Acid calcium sulphate (as Ca H ₄ P ₂ O ₈) 6·52 per cent. Calcium sulphate (as Ca S O ₄) 7·18 per cent. The acid calcium phosphate contained 52·4 per cent of calcium sulphate.	The attention of the retailer and manufacturer was called to the result of analysis.

Bacteriological Examination of Milk.

Thirteen samples of milk were examined bacteriologically, but of those 6 only were original samples, the others being taken in following up a case of tuberculous milk. Of the 6 'first' samples, bacillus coli was found in each in quantities varying from 1 cc. to one-hundredth part of that amount. That is from 16 or 18 drops to about one-fifth part of a drop. The presence of this germ indicates contamination with cow dung in each of the six samples. One of the samples was found to contain the tubercle bacillus. The herd of cattle from which this milk was derived was examined by a veterinary surgeon, and samples taken from each of the three suspected cows. Each of those three samples shewed the tubercle bacillus to be present. The farmer was immediately notified that the milk must not be put in circulation for human use, and must not be used for feeding of animals without previous boiling. Four further samples taken from this herd did not shew the presence of the germ of tubercle.

Dairies, Cowsheds and Milkshops.

Number of—

Registered cow-keepers	23
Inspections	56
Contraventions	3
Ditto remedied	3
Milk-sellers registered	91
Inspections	47
Contraventions	22
Need of limewashing	12
Choked drains	9
Defective paving	1
Contraventions remedied	22

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS,

1912-1917.

Report for the Year ended 31st December, 1921.

1. Milk and Cream not sold as preserved cream:—

	(a) No. of Samples examined for the presence of a preservative.	(b) Number in which a preservative was reported to be present.
Milk	39	Nil
Cream	Nil	Nil

Nature of preservative in each case in column (b), and action taken under the Regulations in regard to it—Nil.

2. Cream sold as preserved cream:—

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservative were correct:—

(1) Correct statements made	4
(2) Statements incorrect	Nil

Total	4
-------------	---

(b) Determinations made of milk fat in cream sold as preserved cream:—

(1) Above 35 per cent.	4
(2) Below 35 per cent.	Nil

Total	4
-------------	---

(c) Instances where (apart from analysis) the requirements as to the labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed—Nil.

(d) Particulars of each case in which the Regulations have not been complied with and action taken—Nil.

3. Thickening substances: Any evidence of their addition to cream or preserved cream; action taken, where found—Nil.

REGISTRATION OF WHOLESALE DEALERS IN MARGARINE AND MARGARINE CHEESE.

Sale of Food and Drugs Acts, 1887-1899.

There are 15 wholesale dealers in Margarine. The premises are kept in a satisfactory manner.

FRIED FISH SHOPS.

There are 25 venders of fried fish and chipped potatoes. These premises are regularly visited—mostly in the evening, during cooking operations.

RAG FLOCK ACT.

Three samples of rag flock were taken for analysis. They were found to conform to the standard prescribed.

COMMON LODGING-HOUSES.

There are 5 such houses in the City. The accommodation provides for 159 men in 29 rooms. During the year, 34 visits were made, and 5 contraventions of the Bye-Laws were found. The defects were want of cleanliness, and were remedied on service of notice.

One common lodging-house has been removed from the register owing to the death of the registered keeper and non-application for transfer.

The following is a tabular statement of the work done by the Sanitary Department:—

Number of—		No. dealt with.
Complaints in respect of nuisances	245	245
Visits in respect of nuisances	3719	
Rooms disinfected after infectious disease		304
Investigations respecting infectious disease	251	
Matters referred to City Surveyor	65	
Tests applied to drains	565	
Drains found defective	235	
Drains reconstructed	289	
*Privies abolished	2	
Ashpits abolished	34	
Ashbins provided	504	
Inspections of Courts	485	
Inspections of school premises	90	
Inspections of stables, etc.	433	
Inspections of Canal boats	125	
Inspections of factories and workshops	282	
Dairies, cowsheds and milk-shops	103	
Inspections of slaughter-houses	326	
" Butchers' shops	275	
" Fishmongers' shops	252	
" Various other food shops	247	
" Offensive trade premises	66	
Smoke observations	25	
House-to-house (district) inspections...	216	
Visits to common lodging-houses	34	
Dwellings (inspections and re-inspections)	5108	
The following Notices were served:—		
Intimation Notices		418
Statutory Notices		288

* There are now no privies in the City proper, and only seven in the surrounding rural districts within our boundary.

RATS AND MICE (DESTRUCTION) ACT, 1919.

The following table gives particulars of work done under the above Act. For about 6 weeks of the year we had no rat-catcher:—

No. of Visits made.	Method.		No. of Rats Caught.
	Traps.	Poison.	
1694	1492	230	1269

In addition to the above, during rat-week, 25,000 baits were laid in various parts of the City, and a large number of dead rats were subsequently found. A considerable proportion of the baits

were laid in and about the sewers, and unfortunately their flooded condition during most of the week prevented an estimation of the rats killed there. During the week the London and North-Western Railway Co. and the Great Western Railway Co. co-operated in the work, and liberally baited their own premises.

8. PUBLIC HEALTH STAFF.

Whole-time Officers.

1. The Medical Officer of Health, School Medical Officer and Tuberculosis Officer.
2. Assistant Medical Officer of Health and School Medical Officer.
3. Chief Clerk.
4. Assistant Clerk.
5. Chief Sanitary Inspector.
6. District Inspector of Nuisances.
7. District Inspector of Nuisances.
8. Assistant District Inspector.
9. Labourer.

Female Staff.

10. Health Visitor.
11. Health Visitor.
12. Tuberculosis Nurse.

Part-time Officers.

Two Clinical Officers, V.D. Clinic, on Staff of Royal Infirmary.
Physician: Maternity and Child Welfare Clinic.

HOUSING.

General Conditions.—The condition as to housing remains extremely unsatisfactory. In my last year's report I mentioned that the 800 houses provided for in our original programme would likely be insufficient. The accurate estimation of our population now available enables a reliable calculation to be made of the houses required. Our total population is estimated at 41,407, and the total number of houses in the area 8,447, including the 80 built and occupied of the housing scheme. Allowing the reasonable average of 4·5 persons per house we require 9,200 houses, which shews a shortage of 753, but we know that 320 houses have to be demolished as unfit for use, so that the shortage becomes 1,073. This, however, does not provide for the increase in population, which is at present about 200 a year, so that for every year's delay in building the requisite number of houses another 44 ought to be added to the estimate. Further, in 5 years' time the demolitions will have increased in number, so that if we say that from 1,300 to 1,400 houses will be required within the next 5 years the estimate will not be far wrong.

This is not the place to discuss the reasons for failure of the housing scheme, but I would like to point out that in one respect, at least, the Chester Scheme has not failed, that is, in the type of house built. In accommodation, convenience, material and workmanship, the 80 houses built and occupied are a very real and satisfactory advance on pre-war workman's dwellings. They are houses which Chester will be able to look to with satisfaction for many years to come. They are only extravagant in price, but in no other point. It is to be hoped that conditions will soon be such that the sites already secured by the local Authority, and also others, may be developed either by the Municipal Authority or by private builders, and that the standard set at Buddicom Park will not be lowered.

Overcrowding is as extensive and harmful as it ever has been. It is a very great hardship on many people, and is harmful to the health of great numbers. There is seldom a week passes without me being asked to use my influence to secure a house for a family living in very overcrowded conditions, and too often their complaint that their health is suffering appears to be true. Many hundreds of our population are living under conditions which are both physically and morally harmful. Families living in a single room are numerous. Three families in a two-bedroomed house is worse. The inadequacy or absence of means of cleanliness or comfort is widespread and doing very great harm. Another disagreeable aspect of this question is the profiteering indulged in by a certain class of property owner. Ten shillings per week for a single room furnished with a bedstead and table is not very uncommon.

Fitness of Houses.—The conditions as to price of material and labour has enabled much more work to be done in rendering houses fit for habitation, but they still hamper our work to a considerable extent. The repair of dilapidations ought not to wait for action by this department, but in this and the provision of proper washing accommodation, food cupboards, windows made to open, and other details, the action of this department has rendered very many houses comfortable instead of comfortless, and increased the value of the property.

Under either the Public Health Act, Housing Acts, or Inspection of District Regulations, 1,389 houses were inspected during the year. Of those, 1,044 were not up to standard, and were dealt with. Negotiations with the owner led to the work being done without any formal action in 140 cases.

Under the Housing and Town Planning Act, 1919, 87 houses were dealt with. Of those, 86 were under Section 86, of which 49 were rendered fit by the owners during the year, and 37 were outstanding at the end of the year. At the beginning of 1921, 15 houses were carried over from the previous year, and were dealt with by the local Authority in default of the owner. A closing order was made in the case of one house.

Under the Public Health Acts, 818 houses were dealt with and 782 had been rendered fit by the owners during the year, and 36 were unfinished at the end of the year.

APPENDICES.

HOUSING CONDITIONS.

STATISTICS.—Year ended 31st December, 1922.

I.—GENERAL.

(1) Estimated Population	41,407
(2) General Death-rate	14.12
(3) Death-rate from Tuberculosis	1.47
(4) Infantile mortality	88.26
(5) Number of dwelling-houses of all classes	8,447
(6) Number of working-class dwelling- houses	6,092
(7) Number of new working-class houses erected	80

2.—UNFIT DWELLING-HOUSES.

I.—*Inspection.*

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	1389
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	216
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	1
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	10.44

II.—*Remedy of Defects without Service of formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the local Authority or their officers	140
---	-----

III.—*Action under Statutory Powers.*

A. Proceedings under section 28 of the Housing, Town Planning, etc., Act, 1919:

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	86
(2) Number of dwelling-houses which were rendered fit—	
(a) by owners	49
(b) by local Authority in default of owners	15
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	Nil

B. Proceedings under Public Health Acts:

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	818
(2) Number of dwelling-houses in which defects were remedied—	
(a) by owners	782
(b) by local Authority in default of owners	Nil

C. Proceedings under sections 17 and 18 of the Housing, Town Planning, etc., Act, 1909:

(1) Number of representations made with a view to the making of Closing Orders	1
(2) Number of dwelling-houses in respect of which Closing Orders were made	1
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	Nil
(4) Number of dwelling-houses in respect of which Demolition Orders were made	Nil
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders	Nil

CANAL BOATS ACTS, 1877 AND 1884.

Number of Boats added to Register in 1921	—
Number re-registered owing to Structural Alterations	—
Number re-registered owing to other reasons	1
<hr/>	
Total number registered to 31st December, 1921	498
Total number of Registrations cancelled	34
Actual number of Boats on Register at 31st Dec., 1921 ...	464
Number of Boats inspected in 1921	125
Number of boats conforming to the Acts and Regulations ...	124
<hr/>	
Number of boats infringing the Acts and Regulations	1
Total number for which the Cabins were registered	412
Total number occupying the Cabins	350
Details of occupation—Male Adults	126
Female Adults	95
Children of School Age	76
Children under School Age	53
<hr/>	

350

Details shewing Numbers Infringing in respect to:—

—	... Registration	—
—	... Notification of Change of Master	—
—	... Absence of Certificate	—
—	... Certificate not Identifying Owner with Boat	—
—	... Marking	—
—	... Overcrowding	—
—	... Partition (Regn. 8, b. ii.)	—
—	... Females over 12 Improperly Occupying	—
1	... Cleanliness	1
1	... Painting	1
—	... Ventilation	—
—	... Disapidation	—
—	... Removal of Bilge Water	—
—	... Without Pump	—
—	... Refusal of Admittance of Inspector	—
—	... No proper Water Vessel	—
—	... Without requisite Double Bulkheads	—
—	... Non-notification of Infectious Disease	—
—	... No. of Boats detained for Cleansing (not for I/D)... ..	—

2	Total Cases met with.	Total Cases remedied ...	2
Number of Legal Proceedings taken		—	
Number of printed Notice Forms issued		1	
Number of Notices attended to		1	
Number still corresponding about		—	

CITY AND COUNTY OF THE CITY OF CHESTER.

Table I.—Vital Statistics of Whole District during 1921 and previous years.

YEAR	Population estimated to Middle of each Year	BIRTHS			TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT			
		Un- corrected Number	Nett		Number *	Rate	Of Non- residents registered in the District	Of Resi- dents not registered in the District	Under 1 Year of Age		At all Ages	
			Number †	Rate					Number †	Rate per 1000 Nett Births	Number †	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13
1914	39,689	917	925	23·31	597	15·04	64	28	84	90·81	561	14·13
1915	37,716	853	860	21·67	731	19·38	65	13	92	106·9	666	17·65
1916	39,730	856	856	22·65	742	18·67	107	27	78	91·12	662	16·66
1917	40,718 (B) 40,218 (D)	735	744	18·49	576	14·4	68	69	62	83·3	577	14·4
1918	40,718 (B) 40,218 (D)	744	744	22·65	680	18·67	119	112	67	90·05	673	16·66
1919	42,464 (B) 40,764 (D)	759	759	17·87	562	13·78	97	84	64	84·32	549	13·47
1920	42,571 (B) 42,388 (D)	1072	1091	25·62	543	12·81	94	70	75	68·7	519	12·24
1921	41,407	882	895	21·63	595	14·36	91	81	79	88·26	585	14·12

Area of District in acres (land and inland water), 2,862.

No. of inhabited houses, 8,447.

Average No. of persons per house, 4·9

* Total deaths occurring in Chester whether of residents or non-residents.

† Births and deaths corrected for those births and deaths properly belonging to Chester, but occurring outside the District, or occurring in the District but properly belong outside.

CITY & COUNTY OF THE CITY OF CHESTER. Table III.—Causes of, and Ages at Death during the Year 1921.

CAUSES OF DEATH.		NET DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.													Total Deaths whether of "Non-Residents" in the District.	
		At all Ages.	Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 10.	10 and under 15.	15 and under 20.	20 and under 35.	35 and under 45.	45 and under 65.	65 and over.		
All causes } Certified ... } Uncertified		584	1													1
1	Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
2	Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
3	Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0
4	Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
5	Whooping Cough	...	6	6	...	...	...	1	...	...	...	...	...	...	...	0
6	Diphtheria and Croup	...	1	1	...	...	...	...	...	...	...	...	...	...	...	5
7	Influenza	...	7	...	...	...	...	...	...	...	...	...	...	...	...	0
8	Erysipelas	...	1	...	...	...	...	...	...	...	...	...	...	...	...	0
9	Phthisis (Pulmonary Tuberculosis)	...	49	...	...	1	...	...	4	24	9	9	1	1	17	17
10	Tuberculous Meningitis	...	6	2	...	1	...	1	...	...	...	...	1	...	4	4
11	Other Tuberculous Disease	...	6	...	...	2	...	...	1	2	...	...	...	...	...	4
12	Cancer, Malignant Disease	...	66	...	...	...	...	...	...	...	...	4	34	28	16	16
13	Rheumatic Fever	...	4	...	...	...	...	...	...	...	...	...	1	...	...	1
14	Meningitis	...	3	1	1	...	...	...	1	...	...	...	...	...	...	1
15	Organic Heart Disease	...	50	1	...	...	...	...	1	2	...	5	18	20	9	9
16	Bronchitis	...	40	4	3	...	...	...	...	...	2	2	6	25	3	3
17	Pneumonia (all forms)	...	56	7	4	2	1	1	1	5	3	3	10	2	22	22
18	Other Diseases of Respiratory Organs	...	8	1	1	...	...	...	...	...	2	2	1	3	7	7
19	Diarrhoea and Enteritis	...	17	13	3	...	...	1	...	...	...	...	...	...	...	6
20	Appendicitis and Typhlitis	...	2	...	...	...	1	...	...	1	...	...	...	...	...	1
21	Cirrhosis of Liver	...	2	...	...	...	...	...	...	...	...	...	2	...	...	1
21a	Alcoholism	...	1	...	...	...	...	...	...	...	...	...	...	...	...	0
22	Nephritis and Bright's Disease	...	13	...	...	...	...	1	1	2	1	1	3	5	6	6
23	Puerperal Fever	...	1	...	...	...	...	...	...	...	...	...	...	...	...	0
24	Other Accidents & Diseases of Pregnancy & Parturition	...	3	1	...	...	...	...	...	2	...	...	...	...	...	2
25	Congenital Debility and Malformation, including Premature Birth	...	34	32	1	...	...	...	...	...	...	...	...	...	...	10
26	Violent Deaths, excluding Suicide	...	22	1	2	3	1	1	...	4	3	...	4	2	19	19
27	Suicide	...	1	...	...	...	...	...	...	...	...	...	1	...	...	2
28	Other Defined Diseases	...	189	9	1	1	2	1	1	7	17	...	42	106	32	32
29	Diseases ill-defined or unknown	...	5	...	...	...	...	...	...	...	...	...	5	2	0	0
Totals		585	79	23	9	5	6	6	9	11	50	49	141	197	173	173

CITY AND COUNTY OF THE CITY OF CHESTER.

Table IV.—Infant Mortality during the Year 1921.

CAUSES OF DEATH		Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total Deaths 4 Weeks	4 Weeks and under 3 Months	3 Months and under 6 Months	6 Months and under 9 Months	9 Months and under 12 Months	Total Deaths under 1 Year
All Causes	{ Certified, Uncertified.	22 1	6 ..	1 ..	1 ..	30 1	13 ..	21 ..	8 ..	6 ..	78 1
Small-pox ..	..	..	..	..	..	..	..	..	..	..	..
Chicken-pox ..	..	..	..	..	..	..	..	..	..	..	..
Measles ..	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough ..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria and Croup ..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas..	..	..	..	..	..	..	3	2	1	..	..
Tuberculous Meningitis ..	..	..	..	..	..	..	..	0	0	..	..
Abdominal Tuberculosis (b) ..	..	..	..	..	..	..	..	1	1	..	..
Other Tuberculous Diseases ..	..	..	..	..	..	..	..	..	..	..	..
Meningitis (not Tuberculous) ..	..	..	..	..	..	..	..	..	..	..	..
Convulsions ..	..	2	..	..	..	2	1	1	..	..	..
Laryngitis..	..	..	..	..	..	..	..	..	..	..	..
Bronchitis..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia (all forms) ..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea ..	..	..	1	..	..	1	2	4	0	..	..
Enteritis ..	..	..	..	..	..	1	..	3	1	..	..
Gastritis ..	..	..	..	1	..	1	..	5	1	..	..
Syphilis ..	..	..	..	..	..	..	..	..	..	..	..
Rickets ..	..	1	..	..	..	1	..	..	..	..	..
Suffocation, Overlying ..	..	..	..	..	..	..	..	..	..	..	..
Injury at Birth ..	..	..	..	..	..	1	..	..	..	..	..
Atelectasis..	..	..	..	..	..	1	..	..	..	..	..
Congenital Malformations (c) ..	..	..	..	..	..	..	..	..	..	..	..
Premature Births ..	..	15	..	..	..	17	2	..	..	..	..
Atrophy, Debility and Marasmus ..	..	1	1	1	..	3	2	3	1	2	19
Other Causes ..	..	2	1	..	..	3	2	1	..	1	11
Totals	..	23	6	1	1	31	13	21	8	6	79

Administration of the Factory and Workshop Acts, 1901 & 1907

IN CONNECTION WITH

Factories, Workshops, Laundries, Workplaces, and Homework.

1. INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF
NUISANCES.

Premises. (1)	Number of		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
Factories (including Factory Laundries) ...	97	7	—
Workshops (including Workshop Laundries) ...	163	15	—
Workplaces (other than Outworkers' premises included in Part 3 of this Report) ...	22	0	—
Total ...	282	22	—

2. DEFECTS FOUND.

Particulars. (1)	No. of Defects.			Number of Prosecu- tions. (5)
	Found (2)	Remed'd (3)	Referred to H.M. Inspect'r (4)	
Nuisances under the Public Health Acts—				
Want of Cleanliness ...	15	15	—	—
Want of Ventilation ...	2	2	—	—
Other Nuisances ...	4	4	—	—
Sanitary accommodation { insufficient ...	2	2	—	—
{ unsuitable or defective ...	0	0	—	—
{ not separate for sexes ...	0	0	—	—
Offences under the Factory & Workshop Act : Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ...	6	6	—	—
Total ...	31	31	—	—

3. HOME WORK

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.						OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.		
	Lists received from Employers.						Notices served on Occupiers as to keeping or sending lists.	In- stances.	Notices served.
	Sending twice in the year.			Sending once in the year.					
	Lists.	Outworkers. Con- tractors	Work- men.	Lists.	Outworkers. Con- tractors	Work- men.			
Wearing Apparel :—									
(1) Making, etc. ...	16	—	23	3	—	2	34	I	I
(2) Cleaning & washing	—	—	2	—	—	—	—	—	—
Furniture & upholstery	—	—	—	—	—	4	—	—	—
Total	16	—	25	3	—	6	34	I	I

4. REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.										Number.
Dressmaking and Millinery	...	...	...	...	...	...	...	...	...	37
Bakehouses	...	...	...	...	...	...	...	...	...	41
Drapery and Tailoring	...	...	...	...	...	...	...	...	...	29
Boot and Shoe Making and Repairing	...	...	...	...	...	...	...	...	...	24
Blacksmiths and Shoeing Smiths...	...	...	...	...	...	...	...	...	...	10
Cabinet Making and Upholstering	...	...	...	...	...	...	...	...	...	5
Building Contractors	...	...	...	...	...	...	...	...	...	10
Miscellaneous	...	...	...	...	...	...	...	...	...	41
Total Number of Workshops on Register ...										197

5. OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (S. 133, 1901)	1
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5, 1901)	2
Underground Bakehouses (s. 101) in use at the end of the year	1